



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

sn

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,503	01/22/2004	Ching Man Stanley Tsui	P/4076-67	7243
2352	7590	02/17/2005	EXAMINER	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			TANG, MINH NHUT	
			ART UNIT	PAPER NUMBER
			2829	

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/763,503	Applicant(s) TSUI ET AL.	
	Examiner Minh N. Tang	Art Unit 2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-15 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 4-6, 16 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/22/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on January 22, 2004 is considered by the examiner.

### ***Specification***

2. The abstract of the disclosure is objected to because "(Figure 1)" should be deleted. Correction is required.
3. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

4. Claim 14 is objected to because of the following informalities: since claim 14 which depends on claim 13 recited "the transfer arm" lacking of antecedent basis, therefore, to overcome the antecedent basis for this limitation, a limitation -- connected to a transfer arm -- is inserted after "transfer heads" in line 7 of claim 13.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 7-15 and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al. (U.S.P. 5,617,945).

As to claims 1, 8 and 18, Takahashi et al. disclose, in Fig. 1, a test handler comprising: a platform (element inside the thermal wall 54) comprising a turntable (12) configured to move semiconductor devices (71) placed on the platform from an onloading position (40) to an offloading position (50) along a predetermined path; a transfer arm (14) located adjacent the path; and a plurality of transfer heads (15a-15c) connected to the transfer arm (14) that are configured to pick up and transfer semiconductor devices (71) from the platform to a testing position (70) for testing, and thereafter to transfer the semiconductor devices (71) from the testing position (70) to the platform for offloading.

As to claims 2 and 14, Takahashi et al. disclose in Fig. 1, the transfer arm (14) comprises a rotary arm.

As to claims 3 and 15, Takahashi et al. disclose in Fig. 1, the transfer heads (15a-15c) connected to the transfer arm (14) are arranged on a plane that is substantially perpendicular to the predetermined path.

As to claim 7, Takahashi et al. disclose in Fig. 1, the transfer heads (15a-15c) are oriented such that when one transfer head (15c) is at a position adjacent the platform, another transfer head (15b) is at the testing position (70).

As to claim 9, Takahashi et al. disclose in Fig. 1, a plurality of carriers (13) on the platform aligned along the predetermined path, each carrier (13) comprising multiple holders (not shown) for holding multiple semiconductor devices (71).

As to claim 10, Takahashi et al. disclose in column 6, lines 25-27, the transfer arm (14) has a total of four transfer heads connected to it.

Art Unit: 2829

As to claim 11, Takahashi et al. disclose in Fig. 1, a plurality of transfer pods (see, for example, Fig. 8) connected to each transfer head (15a-15c), each transfer pod being configured to hold one semiconductor device (71) during transfer.

As to claims 12 and 20, Takahashi et al. disclose in Fig. 1, a thermal insulation wall (54) bounding a perimeter of substantially an area occupied by the platform.

As to claim 13, Takahashi et al. disclose, in Fig. 1, a method for testing semiconductor devices (71) with a test handler comprising the steps of: placing the semiconductor devices (71) onto an onloading position (40) of a platform (element inside the thermal wall 54) comprising a turntable (12); moving the semiconductor devices (71) along a predetermined path; picking up and transferring semiconductor devices (71) along the path from the platform to a testing position (70) with one of a plurality of transfer heads (15a-15c) connected to a transfer arm (14); testing the semiconductor devices (71); transferring the semiconductor devices (71) from the testing position (70) to the platform; and thereafter moving the semiconductor devices (71) to an offloading position (50) for removal from the platform.

As to claim 19, Takahashi et al. disclose in Fig. 1, holding a plurality of semiconductor devices (71) simultaneously during transfer to the testing position (70).

***Allowable Subject Matter***

7. Claims 4-6 and 16-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2829

Claims 4-6 and 16-17 recite, inter alia, the test handler further including a device precision station positioned such that the semiconductor devices are transferred by the transfer heads to the device precision station for alignment before they are transferred to the testing position.

The art of record does not disclose the above limitations, nor would it be obvious to modify the art of record so as to include the above limitations.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Nansai et al.	6,313,654	Device Testing Apparatus And Test Method.
---------------	-----------	---

Kiyokawa et al.	6,019,564	Semiconductor Device Transporting And Handling Apparatus.
-----------------	-----------	---

Takahashi	5,957,305	Linearly Moving Mechanism.
-----------	-----------	----------------------------

Kiyokawa	5,920,192	Integrated Circuit Transporting Apparatus Including A Guide With An Integrated Circuit Positioning Function.
----------	-----------	--

Fukumoto	5,789,685	Structure Of Rotary Arm And Device Chuck Part Of A Device Handler.
----------	-----------	--

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh N. Tang whose telephone number is (571) 272-1971. The examiner can normally be reached on M-F (7:00-3:30).

Art Unit: 2829

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R. Ramirez can be reached on (571) 272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**MINH NHUT TANG**  
**PRIMARY EXAMINER**

02/11/05